

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

**(19) World Intellectual Property Organization
International Bureau**



A standard linear barcode is located at the bottom of the page, spanning most of the width. It is used for tracking and identification of the document.

**(43) International Publication Date
19 February 2004 (19.02.2004)**

PCT

(10) International Publication Number
WO 2004/014811 A1

(51) International Patent Classification⁷: C03B 37/018, G01G 3/16 (74) Agents: GIANNESI, Pier, Giovanni et al.; Pirelli S.p.A Viale Sarca, 222, I-20126 Milano (IT).

(21) International Application Number: PCT/IB2002/002967

(81) Designated States (national): AE AG AI AM AT AU

Viale Sarca, 222, I-20126 Milano (IT).

(22) International Filing Date: 31 July 2002 (31.07.2002)

(81) **Designated States (national):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(25) Filing Language:

Italian

(26) Publication Language:

English

(71) **Applicant (for all designated States except US): PIRELLI & C. S.p.A. [IT/IT]; Via Gaetano Negri, 10, I-20123 Milano (IT).**

(84) Designated States (regional): ARIP0 patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

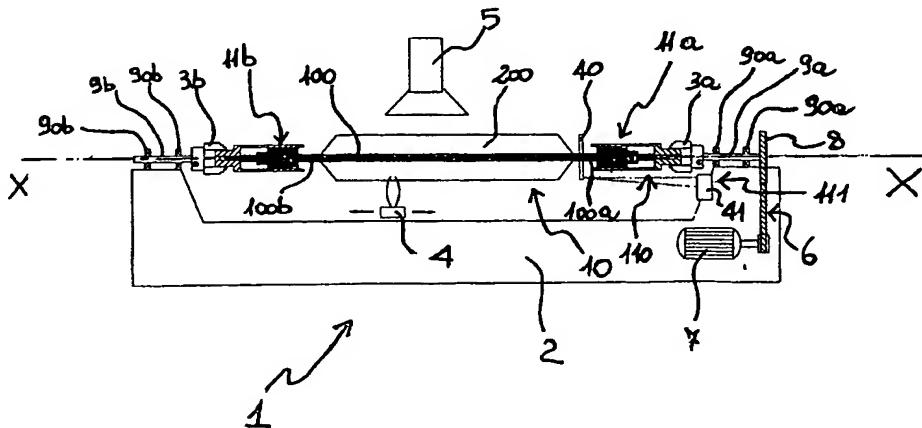
(75) **Inventors/Applicants (for US only): RUZZIER, Marco [IT/IT]; 4A, Viale San Gimignano, I-20146 Milano (IT). DEMERGAZZI, Andrea [IT/IT]; Via dell'Usignolo, 1, I-20147 Milano (IT). SARCI, Davide [IT/IT]; Via delle Forze Armate, 329, I-20152 Milan (IT).**

Published:

— *with international search report*

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR MEASURING THE WEIGHT OF AN OPTICAL FIBER PREFORM DURING A CHEMICAL DEPOSITION PROCESS FOR FORMING THE PREFORM



(57) Abstract: An apparatus (10) for measuring the weight of a preform for optical fibres during a chemical deposition process for the formation of a preform is herein described. The apparatus comprises at least one elastic constraint (11a, 11b) associated with at least one end portion (100a, 100b) of an elongated element (100) constituting a chemical deposition substrate for the formation of the preform, a device (110) for inducing an oscillation, for example axial, on said elongated element (100), a device (111) for detecting the frequency of oscillation of said elongated element (100) and a device (112) for calculating the weight of the preform according to the detected frequency of oscillation. Advantageously, the device of the invention allows the realisation of a method for measuring the weight of the preform wherein the errors in measurement caused by thermal drift effects, by the axial distribution of the masses on the preform and by loads which are different to the mass of the preform in formation are reduced to below the required precision in measurement.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.